

CHAP. XIII. *Of the fracture of the Vertebrae, or rack bones of the back, and of their processes.*

The *vertebrae* are some whiles broken, otherwhiles bruised, or strained on the inside, whereby it cometh to pass, that the membranes which invest the spinal marrow, as also the spinal marrow it self, are compressed and straitned, which cause many malign accidents, which, whether they be curable or not, may be certainly foretold by their magnitude. Amongst these symptoms, are the stupidity, or numbness and palsy of the arms, legs, fundament, and bladder, which diminish, or else take away from them the faculty of sense and motion; so that their urine and excrements come from them against their wills and knowledge, or else are wholly suppressed. Which when they happen (saith *Hippocrates*) you may foretell that death is at hand, by reason that the spinal marrow is hurt. Having made such a prognostick, you may make an incision, so to take forth the splinters of the broken *vertebrae*, which driven in, press the spinal marrow, and the nerves thereof. If you cannot do this, at least you shall apply such medicins as may assuage pain, and hinder inflammation; and then the broken bones shall be restored to their places, and contained therein by those means which we shall mention when we come to treat of the luxation of the spine. But if that the processes only of the *vertebrae* be broken, the fragments shall be put in their places, unless they be quite severed from their *periosteum*. But if they be fevered, you shall open the skin and take them forth, and then dress the wounds as is fit. We understand that only the processes of the *vertebrae* are broken, if in the absence of the fore-mentioned symptoms of numbness and the palsy, you laying your finger upon the grieved part, feel something, as a bony fragment, shaking and moving thereunder, with a certain crackling noise, and cavity, and depression; and then, if when the Patient holds down his head, and bends his back, he feel far more pain, than when he stands up straight upon his feet. For in stooping, the skin of the back is somewhat stretched forth, and extended, and also forced upon the sharp splinters of the fragments, whence proceeds a dolorick solution of continuity, and a pricking: in standing straight up, on the contrary, the stretched skin is relaxed, and consequently less molested by the sharp fragments. The fractured processes of the *vertebrae* easily heal, unless they be associated with some other more grievous symptom which may hinder, such as is a certain great contusion, and the like. For as we formerly said out of *Hippocrates*, all rare and spongy bones are knit by a *Callus* within a few dayes.

The affects of the *vertebrae*.

Señ. 2.  
Prorb.  
The cure of fractured *vertebrae*.

The cure of the process.

Signs that only the processes are fractured.

CHAP. XIV. *Of the fracture of the holy-bone.*

So the holy bone in a certain part thereof, which may be easily healed, may be broken by the blow of bruising things, as by a bullet shot out of a musket, as I have observed in many. But if the fracture violate, together with the *vertebrae* thereof, the spinal marrow contained therein, then the Patient can scarce scape death, for the reasons shewed in the former chapter.

What fracture of the holy bone curable, and what not.

CHAP. XV. *Of the fracture of the rump.*

The Rump is composed of four bones; the first whereof hath a cavity, wherein it receives the lowest *vertebrae* of the holy bone; the other three are joined together by *Symphysis* or Coalition; at the end of these hangs a certain small gristle. The fracture of these bones shall be cured by putting your finger into the Patients fundament, and so thrusting it even to the fractured place. For, thus you may thrust the fragment forth, and fit and restore it to the rest of the bones by your other hand lying upon the back. But that it may be the sooner healed, it is fit the Patient keep his bed, during all the time of the cure. But if there be a necessity to rise, he shall so sit in a perforated seat, that there may be nothing which may press the broken part; and sitting remedies for healing fractures shall be applied at occasion shall offer it selfe.

The description of the rump.  
The cure.

CHAP. XVI. *Of the fracture of the Hip, or Os Ilium.*

The Hip consists of three bones: the first is named *Os Ilium*, the haunch bone; the other, *Os Ischiom*, the huckle bone; the third *Os pubis*, the share bone. These three bones in men of full growth are so fast knit and joined together, that they can by no means be separated, but in children they may be separated without much ado. This bone may be broken in any part thereof, either by a stroak, or by a fall from high upon any hard body. You shall know the fracture by the same kind of signs, as you know others, to wit, pain, pricking, a depressed cavity, and inequality, and also a numbness of the leg of the same side. The splinters of the bones (if quite broke off) must by making incision be taken away at the first dressing; in performance of which operation, you must have a care that you hurt not with your instrument the heads of the muscles, nor any vessels, especially which are great; nor lastly, that large nerve which is sent into the muscles of the thigh and leg. On the contrary, such fragments as are not broken or fevered from their *periosteum*, shall be smoothed and set in order with your fingers, as is fitting. Other things shall be done according, as art and necessity shall perswade and require.

The description of the hip.

The signs.  
The cure.

CHAP. XVII. *Of a fracture of the shoulder, or arm bone.*

The Arm bone is round, hollow, full of marrow, rising up with an indifferent neck, and ending on the upper part into somewhat a thick head. On the lower part it hath two processes, the one before, the other behind; between which there is (as it were) an half circle, or the cavity of a pulley, each end whereof leads into its cavity, of which one is interior, another exterior; that by these (as it were) hollow stops, the bending and extension of the arm might be limited, lest that the

The description of the arm, or shoulder bone.

bone